

RR



REASON & REVELATION

A Monthly Journal of Christian Evidences

MAY 2011 • VOL. 31 • NO. 5

Unnatural Causes

$$P_n = \frac{2(c^{n+1} - 1)}{(c - 1)}$$



**Robotic
Hummingbird
Defies Evolution**

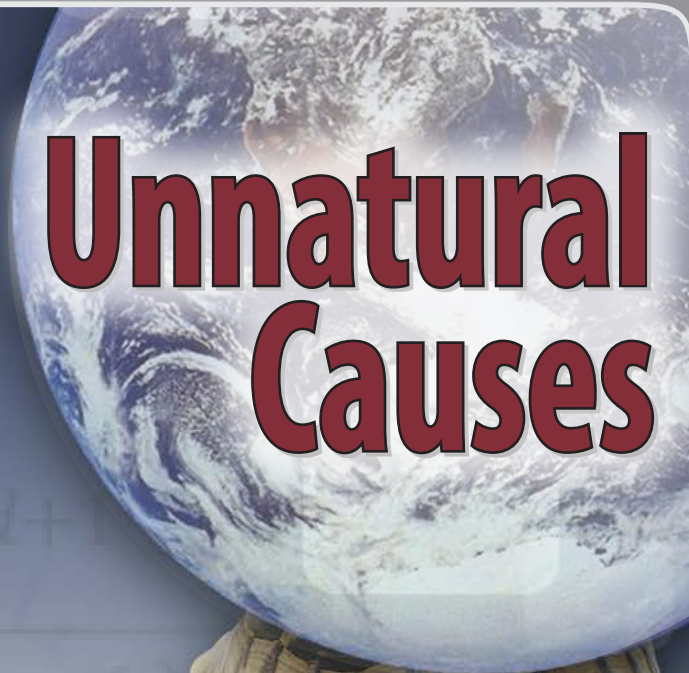
**Population
Statistics
and a Young
Earth**

$$P_{n-d} = \frac{2(c^{n-d+1} - 1)}{(c - 1)}$$

$$\frac{1}{5}(c^{n-d+1})(c^d - 1)$$

$$P_{n-d} = \frac{2(c^{n-d+1} - 1)}{(c - 1)}$$

$$P_{nE} = \frac{2}{(c - 1)}(c^{n-d+1})(c^d - 1)$$



C Unnatural Causes

Jerry Fausz, Ph.D.

[EDITOR'S NOTE: A.P. auxiliary staff scientist Dr. Fausz holds a Ph.D. in Aerospace Engineering from Georgia Tech.]

The most fundamental axiom of science is *Causality*: the belief that every material effect observed must have a sufficient cause preceding or simultaneous with it (Miller, 2011). The observed motion of a cart is difficult to explain, for example, unless we assume the existence of an appropriately placed horse (figuratively speaking, of course). Scientific philosopher Sir Karl Popper wrote that the “rule” of causality “guides the scientific investigator in his work” (1968, p. 61). Actually, Popper refused to accept causality as a scientific “principle,” *per se*, but instead stated as a “methodological rule” that we should never “give up our attempts to explain causally any kind of event we can describe” (p. 61). I will not be so picky, as I believe that causality has been so thoroughly and consistently demonstrated by observation to be readily considered axiomatic, i.e., accepted without proof. Popper clearly indicates by his comments his belief that causality is heavily embedded in scientific thought and method. Nobel Laureate Erwin Schrödinger, upon defining causality, commented:

This postulate is sometimes called the “principle of causality.” Our belief in it has been steadily confirmed again and again by the progressive discovery of causes that specially condition each event (1957, p. 135).

The thoughts expressed by Popper and Schrödinger certainly support the idea that without an assumed “cause,” the scientific search would be quite aimless, if, indeed, possible at all.

The scientific importance of causality can be further illustrated with an amusing story related by noted theoretical physicist Stephen Hawking:

A well-known scientist (some say it was Bertrand Russell) once gave a public lecture on astronomy. He described how the earth orbits around the sun and how the sun, in turn, orbits around the center of a vast collection of stars called our galaxy. At the end of the lecture, a little old lady at the back of the room got up and said: “What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise.” The scientist gave a superior smile before replying, “What is the tortoise standing on?” “You’re very clever, young man, very clever,” said the old lady. “But it’s turtles all the way down!” (1988, p. 1).

Hawking’s anecdote invites several immediate observations regarding causality:

1. Causality is fundamental to scientific reasoning. Note the scientist’s question in response to the lady’s statement. Why assume the tortoise is standing on anything, if not for the sake of causality?
2. The principle requires effects to be natural or material (thus, observable to us). This is a somewhat trivial inference, for should an effect be unobservable in nature, then we would certainly not be concerned with

knowing its cause. The observation implied in the story is nothing less than the existence of the Earth and its perceived place in the Universe.

3. The statement of causality does not of necessity require a natural or material cause. Causes need only be sufficient and antecedent to/simultaneous with the effect to satisfy causality. For example, as a direct consequence of causality, the lady’s hypothesis in the story (a giant tortoise holding up the Earth) resulted, according to her explanation, in an infinite tower of turtles. While this conclusion is not natural by any means (and, arguably, not logical), it is admissible from the standpoint of causality. (For further interesting discussion of the “tower of turtles” analogy, see Davies, 1992, pp. 223-226).

The third statement, while last, is certainly not least important. Note that even miraculous events recorded in the Bible produced effects that were observable or measurable (e.g., water becoming grape juice, the Red Sea visibly parting, people who were observably dead becoming alive again, etc.). Otherwise, miraculous causes would probably be of little interest to us.

It turns out, though, that the admissibility of non-natural causes is the only way to avoid a serious dilemma in the causality assumption. Consider the following: if a cause is, or is assumed to be, material (observable) then, like its effect, it is also contingent—the cause itself must be the effect of yet another cause according to the scientific axiom of Causality. Consequently, a predetermination to assume only material causes will, necessarily, lead to an infinite sequence of them. For example, strict material causality dictates that the existence of life at its present state of complexity may only be explained by some form of evolution (special creation, while an admissible cause, is not material). In order for life to evolve to its present state of complexity, life had to develop from non-living mat-



happen, I see no reason to suppose that they do. My inclination is to assume that the laws of nature are obeyed at all times (1992, p. 15).

Here Davies assumes something to be true that, he admits, cannot be proven within his system of reasoning: the assumption that supernatural events do not occur. A tacit assumption in Davies' statement, however, is the existence of time. While the natural laws may hold "at all times" (and supernatural events may not occur), we have already seen that assuming this to be true back to the beginning of time will lead to the equivalent of an infinite tower of turtles (an infinite causal sequence).

Speaking of the beginning of time, the most widely accepted theory for this event is the so-called "Big Bang." This was hypothesized subsequent to the discovery that the Universe is expanding (Hawking, 1988, p. 38). Specifically, what astronomers discovered was that the light spectra of most of the stars in other galaxies were "red-shifted" (reducing in frequency), by which they assumed this indicates that those stars were moving away from us with increasing velocity. If the assumed expansion is extrapolated backwards in time, then one might suppose that there is a point in time at which all of the matter in the Universe was collocated (existed at the

ter; non-living matter had to somehow organize in a very specific way to provide the necessary constituents for life to generate (assuming, of course, this is even possible); in order to so organize, this matter had to have existed under certain special conditions; and so on.

The dilemma in this reasoning is clearly illustrated by the turtle analogy. If one assumes that the Earth rests on the back of a giant turtle, then the turtle needs to be supported by something. And, since the lady in the story was inclined to make the turtle assumption to begin with, why not just assume that it is standing on the back of another turtle, which is exactly what she did. But, what is the second turtle standing on? As long as one has predetermined to accept the turtle hypothesis, like material causality, the turtles will continue to pile up, like material causes, until we have an infinite number of them. To avoid this dilemma, an assumption must be made at some point in the chain that does not involve a turtle, or by analogy, does not conform to strict materialism.

A related principle has been demonstrated within the most logically consistent subject of study known to mankind—mathematics. In 1931, Kurt Gödel, an Austrian mathematician, proved a theorem holding that "for any consistent mathematical system there exists within the system a well formed

statement that is not provable under the rules of the system" (Overman, 1997, p. 27). Commonly known as Gödel's Incompleteness Theorem, this result simply implies that to make progress within a mathematical system, certain facts need to be accepted axiomatically (that is, they cannot be proven from other facts in the system).

This principal also holds in other fields of reasoning. In fact, Paul Davies makes use of this idea when he proclaims:

I would rather not believe in supernatural events personally. Although I obviously can't prove that they never

Reason & Revelation is published monthly by Apologetics Press, Inc. Periodicals postage paid at Montgomery, AL. **POSTMASTER:** Send address changes to **Reason & Revelation**, 230 Landmark Dr., Montgomery, AL 36117; **ISSN:**[1542-0922] **USPS** # 023415.

Apologetics Press is a non-profit, tax-exempt work dedicated to the defense of New Testament Christianity. Copyright © 2011. All rights reserved.

Editor:

Dave Miller, Ph.D.*
(*Communication, Southern Illinois University)

Associate Editor:

Kyle Butt, M.A.*
(*New Testament, Freed-Hardeman University)

Annual Subscription Rates:

\$12.00	Domestic
\$10.00	Domestic Bulk (5+ to same address)
\$12.00	Canada & Overseas (plus shipping)

General inquiries, changes of address, or international callers:

Phone: (334) 272-8558
Fax: (334) 270-2002

Orders:

Phone: (800) 234-8558
Fax: (800) 234-2882

On-line Web store/catalog, subscription order/renewal form, current issues, archives, and other information (all orders processed on a secure server):

URL: www.ApologeticsPress.org
URL: espanol.ApologeticsPress.org/espanol
E-mail: mail@ApologeticsPress.org

Discovery—Scripture & Science for Kids is a sister publication for children. For more information, please contact our offices or visit the Discovery Web site at:

URL: www.DiscoveryMagazine.com

same point). This, of course, requires the highly non-trivial assumption that time actually extrapolates back to that point. Note that the expansion assumption does not necessarily follow since one might hypothesize other possible causes for the red-shift of the stars, such as nonlinear changes in the “elasticity” of space-time itself, perhaps as if the Universe was “stretched out” at its beginning (cf. “stretched out” [Isaiah 42:5; Isaiah 45:12; Jeremiah 10:12], or “spread out” [Job 9:8; Isaiah 40:22]).

For now, though, consider what science thinks it knows about this assumed beginning point, called the **Big Bang singularity**. The term **singularity** in this context denotes a point at which some fundamental property ceases to exist or certain processes are undefined. For example, in mathematics dividing by zero creates a singularity because division by zero is undefined. To state this more precisely mathematically, the mathematical operation of division is undefined at zero, so the origin (zero) is called a singularity point with respect to the operation of division. In the case of the Big Bang singularity, the assumed reverse time extrapolation creates a point at which all of the matter in the Universe is collocated, or has “zero size” (Hawking, p. 117). This would necessarily imply infinite mass density which, according to general relativity, implies infinite curvature of space-time (Einstein, 1920). Physicists Stephen Hawking and Roger Penrose have studied the properties of singularities predicted by general relativity quite extensively. Hawking observed that at such a point, “the laws of science and our ability to predict the future would break down” (p. 88). Since the laws of science as we understand them are undefined at this point, the point is called a singularity or, in this case, the Big Bang singularity.

So it seems, perhaps not unsurprisingly, that if the chain of causality could be followed back to a beginning of time as defined by the Big Bang, it would take us to a point in which natural laws do not apply. Hawking goes on to say:

“[T]his means that one might as well cut the big bang, and any events before it, out of the theory, because they can have no effect on what we observe” (p. 122). However, cutting the singularity out of the theory just serves to bog the theory down once again in the dilemma of material causality. When the ultimate conclusion of causality turns out to be an unnatural cause, and we cut it out of our theory simply because we desire to stick with material causality, then our reasoning can only lead us, again, to an infinite tower of turtles. Note that Davies points out that it doesn’t make sense to talk about “before” with reference to the Big Bang singularity since time presumably had its beginning there (p. 50).

All of our imagination and reasoning, as well as our experience and observation, point to a necessary break-down in strict material causality. Theories of an infinite Universe, mathematical incompleteness, and space-time singularities testify to a physical reality that cannot be completely deduced by the rules of the system. **The logical conclusion is a cosmological model that admits unnatural cause.**

Furthermore, if we are forced to assume an unnatural cause for the beginning of time, as the evidence suggests that, indeed, we are, then why should we necessarily presume, specifically, that in order to pinpoint the beginning of time, we should extrapolate back to a point in which all the mass in the Universe is collocated? As we have seen, Hawking suggested discarding the Big Bang singularity because its effects cannot be predicted by science. However, Hawking also points out that the singularity theory implies that space-time had a beginning and a boundary, prompting him to ask “What were the ‘boundary conditions’ at the beginning of time?” He then comments: “One possible answer is that God chose the initial configuration of the universe” (p. 122).

Such boundary conditions as these could specify any of an infinite number of initial configurations and states

for space-time and the matter that it contains. Indeed, boundary conditions are, by definition, these types of specifications. I see no particular reason to assume that these boundary conditions start with a point of infinite mass density and equally infinite space-time curvature, other than a **predetermined desire to push material causality to its unnatural limit**. These boundary conditions may, with equal probability, specify a Universe at the beginning of time that is not much different than what we now observe, thus implying that time has not progressed as far as some have conjectured. Perhaps that is why Hawking, using a mathematical contrivance he calls “imaginary time,” has more recently endeavored to create a consistent model of space-time that is finite but does not have a boundary, therefore would presumably not require any boundary conditions. Hawking, however, points out that this idea is “just a proposal: it cannot be deduced from some other principle” (p. 136).

The biblical Old Testament records that God said to Job: “Where were you when I laid the foundations of the Earth? Tell me, if you have understanding” (Job 38:4). Job understood well the rhetorical nature of God’s question, for he had already proclaimed to his companions:

But where can wisdom be found? And where is the place of understanding? Man does not know its value, nor is it found in the land of the living. The deep says, “It is not in me”; and the sea says, “It is not with me.” It cannot be purchased for gold, nor can silver be weighed for its price (Job 28:12-15).

Clearly, Job observed that complete understanding does not lie in materialism or nature and, if he did not know it before, God pointed out to him that neither does the knowledge of how “the foundations of the Earth” were established. Even what understanding we do have contains immutable evidence of its own hard-coded limitations in explaining the observable Universe.

Our observations and reasoning tell us that the foundations of the Universe could not possibly have been laid through strictly material or natural causality.

Theories of cosmology, physics, and even mathematics point to the necessity of a Cause that operates independent of the rules of the system. These theories, however, while they can point to the necessity of unnatural causes, are impotent when it comes to explaining those causes. The Bible closes this gap in our theories by telling us of an omnipotent and omniscient Creator who is capable of operating outside of nature to make everything we observe out of what we cannot observe. The divinely guided Hebrews writer articulated this very concept in his striking statement against strict material causality: “By faith we understand that the worlds were framed by the word of God, so that the things which are seen were not made of things which are visible” (11:3).

If we pay attention to what all of our observation and reasoning are telling us, then our mind’s eye will “see” the foundations of the Universe being laid, not by material or natural causality, but by the omnipotent Creator, God, working outside of nature to set the boundary conditions, bringing natural laws on-line to shape and direct His creation. And our reasoning will, in turn, no longer require an infinite tower of turtles.

REFERENCES

- Davies, Paul (1992), *The Mind of God: The Scientific Basis for a Rational World* (New York: Simon & Schuster).
- Einstein, Albert (1920), *Relativity: The Special and the General Theory* (New York: Barnes & Noble).
- Hawking, Stephen (1988), *A Brief History of Time: From the Big Bang to Black Holes* (New York: Bantam Books).
- Miller, Jeff (2011), “God and the Laws of Science: The Law of Causality,” Apologetics Press, <http://www.apologeticspress.org/APContent.aspx?category=9&article=3716>.
- Overman, Dean (1997), *A Case Against Accident and Self-Organization* (Lanham, MD: Rowman & Littlefield).
- Popper Karl (1968), *The Logic of Scientific Discovery* (New York: Harper & Row).
- Schrödinger, Ernst (1957), *Science Theory and Man* (New York: Dover Publications).

Population Statistics and a Young Earth

Jeff Miller, Ph.D.

Both sides of the creation/evolution debate are locked in a heated battle over the truth about human origins, the age of the Universe, and the ultimate Cause of all things. Interestingly, while this debate rages and arguments are flying from both sides of the issue, there is reasonable evidence available which sidesteps much of the seeming complexity of this conflict and helps to illuminate the truth on the matter of human origins. This evidence comes from the realm of population statistics. What is the **reasonable** conclusion that should be drawn from the evidence in this area?

There is no question that both viewpoints—biblical and evolutionary—require a commencement point for mankind to begin propagation of the species. The biblical (i.e., Flood) model asserts that God started the process, creating both Adam and Eve—one male and one female—approximately 6,000 years ago. From them, the human race was established and ultimately exterminated in the global Flood of Noah’s day (Genesis 6-9), with the exception of Noah and his family. After the Flood, Noah’s three sons and their

wives commenced the repopulation of the human species (Genesis 9:19).

The evolutionary model claims that the first “man” of the genus *Homo* emerged around two to three million years ago (cf. Corballis, 2002, p. 183; Johanson, 2001; “The Emergence...,” 2011; University of Utah, 2005; Walker, 2002). It has always been intriguing that the evolutionary side of the aisle appears to be quiet about the fact that at the commencement of the human species, both male **and** female human beings had to evolve simultaneously, in the same geographic area, and while both were alive, in order for the human species to propagate itself—not just one male or one female, and not two males or two females. Further, these male and female human bodies also had to contain the fully functional reproductive components that would be necessary to replicate humanity. In *The Masterpiece of Nature: The Evolution and Genetics of Sexuality*, Graham Bell discusses this quandary, stating that:

Sex is the queen of problems in evolutionary biology. Perhaps no other natural phenomenon has aroused so much interest; certainly none has sowed as much confusion. The insights of Dar-





Apologetics Press' Weekend Seminars



Weekend Seminars by Kyle Butt & Eric Lyons



Creation vs. Evolution



A Seminar that Examines the Creation/Evolution Controversy in Light of Reason and Revelation

- Creation vs. Evolution
- Dinosaurs: The Poster Children of Evolution (Parts 1 & 2)
- Creation: In Six Days, or Six Billion Years?
- Design Demands a Designer
- Evolutionary Hoaxes Exposed
- The Fruits of Atheism



Is the Bible Reliable?



A Seminar that Examines the Inspiration and Reliability of the Bible

- The Scientific Accuracy of the Bible
- Is the Bible Reliable?
- "Scripture Cannot Be Broken"
- Predictive Prophecy
- Archaeology and the Bible
- Hearing God in the 21st Century



A Closer Look at Christ



A Seminar that Examines the Historicity and Deity of Christ

- Did Jesus Ever Really Live?
- Jesus: Unique Savior or Average Fraud?
- Answering Attacks on Jesus' Deity
- The Resurrection of Christ: Fact or Fiction?
- Was Jesus Really God?
- The Return of Christ

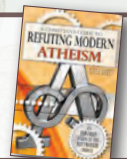


Answering Atheism



A Seminar that Answers Modern Atheism's Attacks:

- Is the God of the Old Testament Immoral?
- Hell, Eternal Punishment, and Love
- Evil, Pain, and Suffering
- The Bible and Slavery



"Do Not Be Conformed"



A Seminar that Challenges Today's Teens to Embrace Holiness and Deny Ungodliness

- Why are You Here?
- Confronting Cultural Confusion
- Knowing the Enemy
- Input in an iChristian Age





Weekend Seminars by Dr. Dave Miller

The Silencing of God



- Was America founded as a "Christian nation"?
- Did the Founding Fathers advocate "separation of church and state"?
- What can Christians do to preserve our nation?

America's Most Pressing Concern



- Sequel to "The Silencing of God"
- Did the Founders believe the Republic depends on citizen acknowledgement of Jesus Christ?

Islam and New Testament Christianity



- Does the Quran possess the attributes of inspiration?
- Are Christianity and Islam compatible?
- What should Christians do?

Must Churches of Christ Change?



Should Worship Assemblies Include...

- Instrumental Music?
- Female Worship Leaders?
- Handclapping?
- Lifting Up Hands?
- Baby Dedications?
- Praise Teams?

Has the Bible Been Corrupted?



- How do we know the Bible was transmitted accurately?
- Can we be sure we have the Bible as God intended it?

A Trip Through the Bible



- A delightful, captivating trip through the entire Bible.
- Allows the Bible student to fit years of prior Bible knowledge into a condensed, sequential narrative.



Weekend Seminar by Dr. Jeff Miller



"Don't Look Too Close! Evolution is Unscientific"

- Evolution vs. the Laws of Science
Do the laws of science support the evolutionary model or the creation model?
Part I: Law of Causality, 1st Law of Thermodynamics, 2nd Law of Thermodynamics
Part II: Laws of Probability, Law of Biogenesis, Laws of Genetics
- Evolution's "Evidence"
Does the alleged "evidence" for evolution pass the science test?
- Why Be an Atheist?
If the evidence is so decisive, why do so many reject it?

Founded in 1979, Apologetics Press is a non-profit organization that exists for the purpose of defending New Testament Christianity. We specialize in waging spiritual warfare (Ephesians 6:12; 1 Timothy 1:18) against the forces of unbelief, skepticism, atheism, and false religion. Additionally, we exist to serve the church by strengthening the faith of Christians and their children. Seminars are typically conducted on weekends (Friday to Sunday). Our offices are located in Montgomery, Alabama. Visit our Web site for more speaker information, as well as access to free materials: www.ApologeticsPress.org.



For more information
please call
1-334-272-8558
or contact us via E-mail:
mail@ApologeticsPress.org

Robotic Hummingbird Defies Evolution

Kyle Butt. M.A.

Imagine looking out your window one morning as the birds come to the feeder and seeing a hummingbird. As you look closer, however, you realize this is no ordinary hummingbird. It hovers, moves forward and backward, and is about the same size as other hummingbirds that you have seen, but this one has some striking differences. It is made out of lightweight, synthetic material and has a camera in its stomach, which is pointing right at you, filming everything you are doing! Anyone staring at a camera-laden hummingbird droid would immediately wonder who designed the machine and why it was sent. No one would entertain the idea that the perfectly functioning robot somehow evolved from natural processes that were at work in a junkyard down the street.

While this hummingbird robot sounds more like science fiction than science, it happens to be the latest gismo produced by the California-based company AeroVironment (Watson, 2011). Watson reported that the "Pentagon has poured millions of dollars into the development of tiny drones **inspired by biology**" (2011, emp. added). The product of this research is a robotic hummingbird "with a 6.5-inch wing span" that weighs "less than a AA battery and can fly at speeds up to 11 mph" (2011). The device has taken AeroVironment five years to produce and cost about four million dollars.

When compared to a "real," living hummingbird, this contraption looks clumsy. Real hummingbirds can fly 25 miles per hour, and reach diving speeds of 60 miles



Courtesy AeroVironment, Inc.
www.avinc.com

per hour. They normally flap their wings about 50 times per second, but can flap them up to 200 times per second. If the amazing mechanical hummingbird took millions of dollars, several years, and a host of brilliant engineers to design, what are we forced to conclude about the real thing? Whoever designed it must have been more intelligent than the combined intelligence of the entire human engineering populace, since this latest hummingbird robot represents the very best humans can do. The supposed naturalistic process of evolution could never account for a creature like the hummingbird, nor for a mechanical imitation of it. When God asked the patriarch Job, "Does the hawk fly by your wisdom?" (Job 39:26), He was stressing the fact that flying creatures like hawks and hummingbirds provide outstanding evidence that God exists, and He knows infinitely more about everything than man does.

REFERENCE

Watson, Julie (2011), "Tiny Spy Planes Could Mimic Birds, Insects," http://news.yahoo.com/s/ap/20110301/ap_on_re_us/us_hummingbird_drone/print.

Apologeticspress.org

If you have not visited the new Apologetics Press Web site, we hope that you will consider doing so today. Last month alone the site received over 700,000 page hits from individuals all over the world. That is over 22,500 page hits per day, 940 per hour, or 15.7 per minute—24 hours per day. We are thankful to God that every four seconds (on average) in the month of March, someone

around the world clicked on the AP Web site—which is dedicated to the defense of pure New Testament Christianity. We hope that you will consider using the site, as well as telling your Christian and non-Christian friends about it. Also, if you would like to support the teaching of God's Word on the site, we would be extremely grateful for any donation you could make to the work.

win and Mendel, which have illuminated so many mysteries, have so far failed to shed more than a dim and wavering light on the central mystery of sexuality, emphasizing its obscurity by its very isolation (1982, p. 19).

Evolutionist Philip Kitcher admitted, "Despite some ingenious suggestions by orthodox Darwinians, there is no convincing Darwinian history for the emergence of sexual reproduction" (1982, p. 54). Evolutionist Mark Ridley noted that "[s]ex is a puzzle that has not yet been solved; no one knows why it exists" (2001, p. 111). Julie Schecter said that "sex remains a mystery to researchers, to say nothing of the rest of the population. Why sex?" (1984, 34:680). [See Thompson and Harrub, 2002 for an in depth discussion on the origin of genders and sexuality.]

Besides the problem raised for evolutionists by the origin of sexual reproduction, more problems exist that evolutionists appear to be quite reticent about. For instance, the patriarch and matriarch of the human race, having miraculously emerged in the same time period of history with each other, also had to be able to find each other on planet Earth without first starving, without being eaten by the ferocious animals that evolutionary images of early man portray, and without getting too old to replicate. And still further, just because there is another human being near you, does that mean you will be attracted to him/her? The male and female had to decide that they liked each other and do something about it before dying. And even further, the baby and mother had to survive the ordeal of child birth in those allegedly primitive circumstances. If the emergence of one human being from a non-human being seems ludicrous due to its contradiction of the Law of Biogenesis, surely this realization makes the evolutionary proposition **beyond** preposterous.

POPULATION STATISTICS AND THE EVOLUTIONARY MODEL

However, for the sake of argument, let us grant the atheistic evolutionist several miraculous feats—two living, opposite-sex human beings, with the necessary sexual components to propagate the species, in the same region on Earth, safe guarded from their primitive environment, with a desire for each other, and young enough to replicate. Even granting all of these significant but unrealistic assumptions, the evolutionist is left with statistical obstacles. Consider the mathematics for this argument.

Let us suppose that couples throughout history have had an average of $(2 \cdot c)$ children (i.e., c boys plus c girls). Starting with two humans, this would make the population after the first generation, $P_n = 2 + 2 \cdot c$. Then, the children, marrying each other, had another $(2 \cdot c)$ children per couple. As illustrated in *Scientific Studies in Special Creation* (Lammerts, 1971), continuing this progression results in the following equation, where n is the number of generations for which the calculation is done.

$$(1) \quad P_n = 2 + 2 \cdot c + 2 \cdot c^2 + 2 \cdot c^3 + \dots + 2 \cdot c^n$$

After multiplying both sides of Equation (1) by c , subtracting the resulting equation from Equation (1), grouping, and dividing both sides by $(c - 1)$, the following equation results:

$$(2) \quad P_n = \frac{2(c^{n+1} - 1)}{(c - 1)}$$

This gives the total population after n generations, without any deaths. Assuming each person lives an average of d generations, the number of deceased people by the final generation (i.e., the $(n - d)^{\text{th}}$ generation) can be calculated using Equation (3):

$$(3) \quad P_{n-d} = \frac{2(c^{n-d+1} - 1)}{(c - 1)}$$

Therefore, the total population after n generations, accounting for death, can be calculated by subtracting the population of the $(n - d)^{\text{th}}$ generation from the population calculated in Equation (2), resulting in the following:

$$(4) \quad P_{nE} = \frac{2}{(c - 1)}(c^{n-d+1})(c^d - 1)$$

If each couple has only two children (i.e., $c = 1$), the population will remain constant, and if each couple has fewer than two children on average (i.e., $c < 1$), the population will decrease (Lammerts, pp. 198-205). [See also Morris and Morris, 1996 and Wysong, 1976 for more information on the derivation of the above equations.]

The actual value of the constants (c , d , and n) are unknown, since the world's population has not been known with any certainty until the last few hundred years. They also would almost certainly have fluctuated at different times in history based on the state of technology, lifespans (especially considering the long lifespans in the generations immediately following the Flood and the shorter lifespans preceding the current state of medical knowledge), and fluctuating offspring production rates. However, this approach allows for the use of long-term averages to get a rough estimate of what the world's population should look like over time.

Being very conservative, accounting for periods of famine, disease, war, natural calamity, etc., let us assume that $c = 1.2$. Thus, each couple throughout history has had, on average, at least two children, and many times three or more children were born. Also, let us assume that each person has lived, on average, one and a third generations (i.e., $d = 1.3$). This means that each person died having seen some, though not all, of their grandchildren. Again,

this estimate is likely very conservative, especially since effective birth control methods are a relatively recent innovation. However, these conservative estimates certainly take into account the long periods of time in history when people lived shorter lives and had fewer children. Let us further assign a reasonable estimate of a “generation” to be 38 years. This means that each couple has had all of their children by age 38. All of these numbers could easily and fairly be increased, but doing so would do even further damage to the evolutionist’s case.

Using these conservative estimates, if human beings have been on the planet producing offspring for one million years, over 26,000 generations have passed. There are currently about seven billion people on earth— 6.9×10^9 (“U.S. & World Population...,” 2011). However, according to Equation (4), there should be over $10^{2,000}$ people on the Earth today if propagation commenced one million years ago. That is a one, followed by 2,000 zeros. In order to try to fathom that number, consider the following analogy. The known Universe is thought to be 28 billion light years in diameter (Powell, 2006; Tully, 2000). That is the equivalent of over 10^{70} cubic miles of volume. If tiny, three foot humans, modeled as cylinders with five inch radii (i.e., very narrow shoulders), were crammed into the Universe like sardines, 10^{82} peo-



ple might fit (if they have not eaten in awhile). That leaves enough people to fill up $10^{1,918}$ (minus one) additional Universes that are the size of this one! And what’s worse, if c , d , or n are increased, as they legitimately could be, the problem is further amplified. Consider also that these numbers are based on a starting point of one million years ago. Evolutionists claim that humans have been on the Earth for two to three million years. To make their plight even worse, the evolutionary community digs its own grave significantly deeper by speculating that the original Adam and Eve were actually Adam, Eve, and about 10,000 other people (Hawks, et al., 2000). Even if 10,000 such miracles were accomplished in the same period of time in

human history, one can easily imagine how many more people would result in a given period of time if 5,000 couples initially began bearing children instead of one couple. **Where, pray tell, are all of the imaginary people that should be in existence if evolution is the true history of humanity?**

The evolutionary community certainly has trouble adjusting the numbers to allow for this preposterous scenario. However, they **must** be able to come up with a reasonable explanation in order to maintain their position. If evolution is true, it must be assumed that there were times when the human population remained constant for **very long** periods of time or decreased to the point of extinction at different times in history (cf. Weiss, 1984; Hawks, et al., 2000). Such speculation is a leap into the dark without sufficient, verifiable evidence. History grants us no world population estimates based on census’s until the last 200 years. Before that, according to population statisticians’ estimates, the average annual population growth was estimated to be relatively constant, ranging between 0.03-0.15% from 1750 A.D. to 10,000 B.C. (“Historical Estimates of World Population,” 2010) [NOTE: World populations are estimated at this later date based on the assumption that the theory of evolution is true. Such a time frame would be pre-Creation, accord-

SPEAKING SCHEDULES

Kyle Butt

May 13-15
May 18
June 1

Buford, GA (770) 945-8620
Leeds, AL (205) 699-2447
Florence, AL (256) 766-5100

Eric Lyons

May 11
May 15
May 20-22

Montgomery, AL (334) 260-6320
Wetumpka, AL (334) 567-6561
Poughkeepsie, NY (845) 452-1555

Dave Miller

May 6-8
May 21-22
May 27-29

Claxton, GA (912) 739-1543
Pulaski, TN (931) 363-2777
Ooltewah, TN (423) 499-8080

Jeff Miller

May 5,12,19,26
May 29-June 3

Montgomery, AL (334) 399-7761
Oakman, AL (334) 272-8558

ing to the Bible, and is rejected by the author.] Likely due to medical breakthroughs and technological advancement, the annual population **growth** has since jumped to about 2%. Note that even the irreligious community recognizes the likelihood of significant population growth on average over time throughout history and makes its estimates accordingly. The evolutionary position, in order to exist at all, must stand in contradiction to this fact. The evidence, as well as common sense, cannot be denied. If growth is the norm as the evidence indicates, evolution is impossible. The evidence conveyed by population statistics simply does not support the evolutionary model.

POPULATION STATISTICS AND THE CREATION MODEL

What about the creation model? Is it supported by the evidence from population statistics? The biblical position asserts that after the Flood, repopulation of the Earth commenced, starting with six people (i.e., Shem, Ham, Japheth, and their wives), instead of two (or 10,000). Using the aforementioned procedure, the following equation can be derived for calculation of

$$(5) \quad P_{nB} = \frac{6}{(c-1)} (c^{n-d+1})(c^d - 1)$$

the projected population for any given time, starting with six people: If we assume, based on biblical genealogies, that the Flood took place roughly 4,300 years ago (cf. Bass, 2003), using the same c and d as above, as well as a generation of 38 years, then 113 generations have passed since the global Flood of Noah's day. Based on these numbers, the approximate projected population for today can be calculated. According to the calculations, there should be approximately seven billion people on Earth— 6.7×10^9 . This is strikingly close to the current population as recorded by the U.S. Census Bureau— 6.9×10^9 .

CONCLUSION

What does the evidence indicate? Is the evolutionary model a plausible explanation for man's existence? The evidence from the field of population statistics says, "Certainly not." Even granting very conservative numbers in the calculation of projected populations, it is the biblical model that is in keeping with the numerical evidence provided by the world's population. The evidence supports a young age for the Earth and mankind. One would have to be dishonest to examine such concrete evidence and dismiss it out of hand. Yet, this attitude pervades much of the scientific community today. The same people who proclaim that **they**, unlike theists, are the ones who examine the evidence without bias, only drawing those conclusions that are warranted by the evidence, are the very ones who turn against the evidence when it does not suit their purpose and agenda. Philosopher David Hume once said that no man turns against reason until reason turns against him (as quoted in Warren, 1982, p. 4). That certainly sums up the mentality of many in the scientific community. Why not choose to go with the reasonable conclusion that can be drawn from the evidence? The Earth is young. Evolution cannot explain human existence. The biblical model can...and does.

REFERENCES

- Bass, Alden (2003), "Which Came First, the Pyramids or the Flood?" *Reason & Revelation*, 23[11]:97-103, November, http://www.apologeticspress.org/pub_rar/23_11/0311.pdf.
- Bell, Graham (1982), *The Masterpiece of Nature: The Evolution and Genetics of Sexuality* (Berkeley, CA: University of California Press).
- Corballis, Michael C. (2002), *From Hand to Mouth: The Origins of Language* (Princeton, NJ: Princeton University Press).
- "The Emergence of Modern Humans" (2011), Dolan DNA Learning Center, <http://www.geneticorigins.org/pv92/intro.html>.
- Hawks, John, Keith Hunley, Sang-Hee Lee, and Milford Wolpoff (2000), "Population Bottlenecks and Pleistocene Human Evolution," *Molecular Biology and Evolution*, 17[1]:2-22.
- "Historical Estimates of World Population" (2010), U.S. Census Bureau, <http://www.census.gov/ipc/www/worldhis.html>.
- Johanson, Donald C. (2001), "Origins of Modern Humans: Multiregional or Out of Africa?" *American Institute of Biological Sciences*, <http://www.actionbioscience.org/evolution/johanson.html>.
- Kitcher, Philip (1982), *Abusing Science: The Case Against Creationism* (Cambridge, MA: MIT Press).
- Lammerts, Walter, ed. (1971), *Scientific Studies in Special Creation* (Philadelphia, PA: Presbyterian and Reformed).
- Morris, Henry M. and John D. Morris (1996), *The Creation Trilogy—Science & Creation* (Green Forest, AR: Master Books).
- Powell, Richard (2006), "The Size of the Universe," *An Atlas of the Universe*, <http://www.atlasoftheuniverse.com/universe.html>.
- Ridley, Mark (2001), *The Cooperative Gene* (New York: The Free Press).
- Schecter, Julie (1984), "How Did Sex Come About?" *Bioscience*, December.
- Thompson, Bert and Brad Harrub (2002), "The Origin of Gender and Sexual Reproduction [Part I]," *Reason & Revelation*, 22[10]:73-79, http://www.apologeticspress.org/pub_rar/22_10/0210.pdf.
- Tully, Brent (2000), "How Big is the Universe?" NOVA Online, <http://www.pbs.org/wgbh/nova/universe/howbig.html>.
- University of Utah (2005), "The Oldest Homo Sapiens: Fossils Push Human Emergence Back to 195,000 Years Ago," *Science Daily*, <http://www.sciencedaily.com/releases/2005/02/050223122209.htm>.
- "U.S. & World Population Clocks" (2011), U.S. Census Bureau, <http://www.census.gov/main/www/popclock.html>.
- Walker, Matthew (2002), "What Does the Archaeology Record Tell Us About the Lifestyles of the Early Hominids?" *New Archaeology*, <http://www.newarchaeology.com/articles/earlyhom.php>.
- Warren, Thomas B. (1982), *Logic & the Bible* (Ramer, TN: National Christian Press).
- Weiss, K.M. (1984), "On the Number of Members of the Genus Homo Who Have Ever Lived, and Some Evolutionary Implications," *Human Biology*, December, 56[4]:637-49.
- Wysong, R.L. (1976), *The Creation/Evolution Controversy* (East Lansing, MI: Inquiry Press).



NOTE FROM

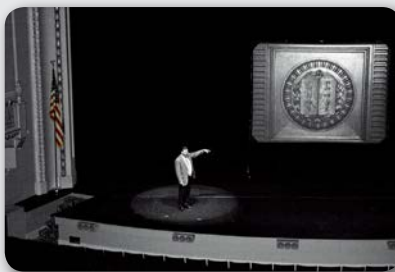
The Editor



A.P. Seminar Speakers

Apologetics Press has developed a multi-pronged approach to evangelism and the defense of the Faith. This outreach includes the publication of printed materials (books, tracts, correspondence courses, pamphlets, etc.), the production of multimedia (DVDs, MP3s, etc.), and harnessing the Internet by means of our state of the art Web site. All of these avenues of evangelism are designed to achieve the same objective: save souls. Apologetics Press does not exist to make money. Rather, we earnestly, sincerely, and passionately seek only to assist men, women, and children in preparing their souls for eternity. We only want to provide them with helpful, effective means by which they can know the truth about the critical issues they are facing in current culture.

An additional tool that A.P. incorporates into its multi-faceted assault on Satan is the **live seminar**. God has blessed this organization with the accumulation of several talented men who are well-prepared to stand before audiences and defend the Christian Faith in an effective manner. These men have prepared themselves academically and spiritually to represent God's Word



accurately, while debunking the popular propaganda that enshrouds much of society. They are equipped to effectively refute the false theories of evolution, atheism, skepticism, and agnosticism. They are able to deflect the attempts to convict the Bible of inaccuracy and contradiction. They

can uphold the deity of Christ and counteract false religions (like Islam) that deny that deity. They can fight secularism and the culture war, demonstrating the Founders' intention that America must retain its initial attachment to Christian principles if it is to survive.

The center spread of this month's issue of *R&R* provides a listing of these speakers and the subjects they address in their seminars. Remember that Apologetics Press exists to serve. If any of these men may be of service, do not hesitate to call A.P. and schedule a seminar.

Dave Miller

See the Center Spread
for More Details